

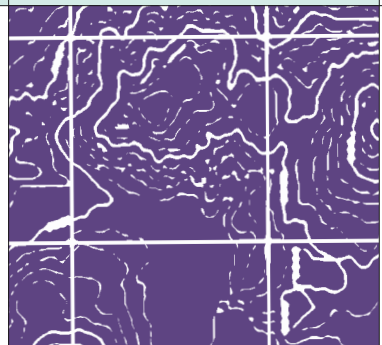
Alexandria Township SDAT

Maintaining Rural Character Through
Sustainable Growth



A Report by the Sustainable
Design Assessment Team

Alexandria Township, New Jersey
November 18–20, 2005



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EXECUTIVE SUMMARY

People link open space closely with their quality of life. The future of a community depends largely upon preserving open space as a legacy that current residents can provide for themselves and future generations. Rural character, aesthetic qualities, and even economic vitality are dependent upon preserving valuable open space assets. With this in mind, what kind of legacy does Alexandria Township want to leave behind?

Imagine conserving the historical and cultural fabric of the community—its quaint clustered hamlets and wide open spaces. Imagine beautiful vistas of rolling hills or river valleys, or preserving the farms and fields that have been worked for generations. Imagine families gathered at the park for a sports game, children walking or riding to school along a neighborhood pathway, or horses ridden along a winding, forested trail.

Imagine designing a plan now that will yield the future described above. The process of smart planning that yields sustainable growth and development patterns is one of making choices with a clear understanding of the long-term consequences. Important questions must be asked: Is it possible to accommodate more development but with less suburban sprawl? Where can growth occur with the least negative impact and greatest value to the community? How do neighborhoods get better, not just bigger? What kind of legacy will result if current planning conventions prevail? Are planning policies addressing challenges in the right way? If not, how can they be done correctly?

Given the fundamental connection of present community planning issues with the preservation of open space, the body of the report is divided into five sections that cover a range of open space strategies addressed by the SDAT:

- Developmental strategies
- Agricultural strategies
- Cultural strategies
- Recreational strategies
- Environmental strategies.

Developmental Strategies

Areas of development, from dense cities to remote rural villages, can and should exist in harmony with adjacent open spaces. Community open space should be planned as an integral part of neighborhoods and villages, providing opportunities for community identity, cultural activity, and social interaction.



This section addresses key issues for sustainable development, including ratables and economic development, brownfield redevelopment, transportation, airports, and water and sewer infrastructure, although not each topic is covered specifically or in great detail. Transfer of development rights (TDR), specifically enabled by the state of New Jersey through recent legislation, is presented as a key preservation strategy, with an overview of mechanics, process, and policy recommendations for implementing a successful TDR program. This process, combined with the regional Highlands preservation planning initiative, can help achieve a reasonable and equitable approach to development without destroying the essential characteristics of the township or the loss of essential natural resources.

Agricultural Strategies

The SDAT identified not only the loss of farmland, but the loss of farming itself as a growth and economic challenge. Agricultural open space is neither undisturbed nor pristine; however, these areas do represent the present and future economic value of livestock and crops produced, as well as provide uncluttered views and a direct ecological connection to the land. This section addresses key agricultural issues and values such as sustainable agriculture, land valuation, and conflict resolution.

Cultural Strategies

Alexandria Township has significant cultural and historical sites the community deems worthy of preservation, from farm sites and village greens to airports and scenic byways. Although cultural issues are integral with many of the other open space elements, especially developmental and agricultural open space, it also has its own set of priorities and preservation approaches. This section addresses key cultural elements such as historic landscapes, preservation and heritage tourism and recreation, regional context, and airport preservation.



Recreational Strategies

Recreational open space includes areas designated for passive recreation (e.g., hiking, biking, and jogging) and active recreation (e.g., competitive sports and structured or programmed play areas). Recreational open space is not only conducive to an active, healthy population, but also contributes greatly to the social, cultural, and economic activity of a community.

This section addresses such recreational issues as tourism, sports and fitness, equestrian activity, consumptive recreation (e.g., hunting and fishing), and flying and ballooning. These are all vibrant and existing recreational activities in Alexandria Township that contribute to the quality of life in the region.

Environmental Strategies

The township is abundant with environmentally and ecologically sensitive areas that should be preserved. These areas include the Highlands, the Delaware River Valley, stream corridors, steep slopes, and plentiful wildlife habitat. This section addresses key environmental issues such as hydrology and water quality, habitat, brownfield redevelopment, and water and sewer needs.

Beyond Open Space

This section covers additional issues aside from open space preservation strategies that may not be addressed in the previous sections. It includes insights on important principles to advocate for, such as energy efficiency, water conservation, solid waste management, and resource stewardship, with a framework for implementing sustainable policies throughout the community.

Finally, the closing section offers some thoughts on how the community can best move forward to address the issues and recommendations covered in the report.

INTRODUCTION

In June 2005, Alexandria Township, N.J., submitted a proposal to the American Institute of Architects (AIA) for a Sustainable Design Assessment Team (SDAT). The application highlighted a desire to bring preservation and planning expertise to assist the town, its leaders and citizens, in addressing key issues facing the community.

The issues of greatest concern stem from ever-increasing development pressure from large metropolitan centers in the region that threatens to alter the rural character of the community. While the rural character and charm are a great attraction for homebuyers, this attraction also threatens the very qualities that have attracted new residents. The increasing suburbanization of the township will undoubtedly bring a host of complementary problems that have been similarly observed in the transformation of other surrounding communities, including strain on infrastructure such as roads and utilities, loss of prime productive farmland, and impacts to the local ecosystem.

The AIA accepted the proposal and, after an initial scoping visit by a small group in October 2005, organized a panel of specialists to address some specific issues. The SDAT members arrived in Alexandria Township on November 17. For the next three days, the team members, working closely with local officials, community leaders, technical experts, and citizens, studied the community and its concerns. During these three days, the team explored key issues and offered a range of coordinated recommendations aimed at making course corrections to preserve quality of life and environment in the township. The recommendations were presented to the community in a public meeting on November 20.

This report is a more detailed version of the findings and recommendations that were presented to the community on November 20. The report offers an introductory overview of the SDAT program and process and a brief presentation of Alexandria Township issues considered by the SDAT.

What is the SDAT Program?

The SDAT program is an interdisciplinary community assistance program that focuses on principles of sustainability. Launched in 2005, the program represents an exciting new chapter in the AIA's history of supporting communities with volunteer design and planning expertise. The Alexandria Township SDAT is the sixth completed project under the new program.

The SDAT program is modeled on the AIA's R/UDAT (Regional and Urban Design Assistance Team) program, which has existed since the early 1970s. Although the R/UDAT program generally provides communities with specific design solutions, the SDAT program provides broad assessments to help frame policies and other solutions in the context of sustainability, and helps communities plan the first steps of implementation. The SDAT program is based on an understanding of design as a process that

- Is integrative, holistic, and visual
- Is central to achieving a sustainable relationship between humans, the natural environment, and the place
- Gives three-dimensional form to a culture and a place
- Achieves balance between social, environmental, and economic systems.

The SDAT program is grounded in the AIA design assistance team values, which call for a multidisciplinary approach, objectivity of the participating team members, and broad public participation.

Why is the SDAT Program Valuable?

Many communities are immobilized by conflicting agendas, politics, personalities, or even the overabundance of opportunity. Many communities have not yet taken stock of their current practices and policies within a sustainability framework, while others have identified issues of concern but desire assistance in developing a plan of action to increase sustainability. The SDAT process ensures that alternative solutions are given a fair hearing and that options are weighed impartially. The SDAT process

- Informs the community of opportunities and encourages them to take action to protect local and regional resources
- Helps the community understand the structure of the place at various scales and contexts—from regional resources to the neighborhood scale
- Explores and articulates the larger contexts and interactions of ecological, sociological, economic, and physical systems
- Visualizes potential futures
- Recognizes and describes the qualities of a place by preserving the best elements of the past, addressing the needs of the present, and planning for the needs of future generations

- Identifies and describes choices and consequences
- Connects plans and actions
- Advances the principles of quality sustainable communities
- Helps the community define the roles of various stakeholders
- Develops a road map for the implementation of more sustainable policies and practices.

The key to SDAT success is diversity and participation; the process involves multiple disciplines and multiple stakeholders. The SDAT process includes not only the expert team but also government agencies and officials, private businesses, schools and students, community members, and other parties as appropriate.

Who are the Key Participants in the SDAT Process?

The SDAT is a group of respected professionals, selected on the basis of their experience with the specific issues facing the community, who come together to work with community decision-makers to help them develop a vision and framework for a sustainable future. Team members volunteer their time to be a member of the SDAT. To ensure their objectivity, they agree to refrain from taking paid work for three years from the date of completion of the SDAT project. A distinct team is assembled for each project based on the project's unique features. The team consists of a leader and five to seven members and a staff person from the AIA Center for Communities by Design.

The professional stature of the SDAT team members, their independence, and the pro bono nature of their work generate community respect and enthusiasm for the SDAT process which, in turn, encourages the participation of community stakeholders. The passion and creativity that are unleashed by a top-notch multidisciplinary team of professionals working collaboratively can produce extraordinary results.

Local Steering Committee

The steering committee is the key organizing group for an SDAT project. It is responsible for assembling local and regional information, organizing the preliminary meeting and SDAT visit, and generating local media coverage throughout the program. After the SDAT visits, the steering committee typically evolves into a group that is dedicated to implementing the SDAT recommendations.



Local Technical Committee

The local technical committee is the technical support group for the SDAT project, including locally based design and planning professionals, environmental professionals, economists, and others whose skills and experience parallel those of the SDAT members and who bring with them detailed knowledge of local conditions, issues, and information resources. Their presence magnifies the effectiveness of the team.

Citizens

In the end, the citizens of the community are the critical players, both for their insights and observations during the team visit and for their support for the new directions that emerge from the SDAT process.



On behalf of the Alexandria Township SDAT and the American Institute of Architects, it is hoped this report will be a useful guide to Alexandria Township as it charts its future for the coming years and for coming generations.

ALEXANDRIA TOWNSHIP TODAY

Alexandria Township is in Hunterdon County in western New Jersey. Founded in 1765, the township consists of approximately 28 square miles and includes the historic villages of Everittstown, Mt. Pleasant, Little York, and part of Pittstown. The township has an estimated population of 5,000 residents. This figure is likely to change quickly; the township realized a growth in population in excess of 23 percent between 1990 and 2000. Suburban growth pressure will likely continue as an increasing number of residents are attracted to the beauty of the still largely undeveloped area, and developers are attracted by the economy of developing in rural farm areas as other townships closer to the metropolitan centers are rapidly filling.

Alexandria Township is composed of a diverse landscape, with features including the Delaware River and its associated floodplain and wetlands, forested uplands known as the Highlands, and lush valleys historically used as farmland. The pristine condition of the numerous streams and rivers has led to their designation as Category One waters by the state government, thereby incurring strict state and federal regulations. The recent enactment of a critical regional water source preservation program known as the Highlands Water Protection and Planning Act has placed the township largely within the “Highlands Planning Area” of the Highlands Region, creating a zone where growth is not environmentally regulated, and where growth could be diverted to from the “Highlands Preservation Area.” This division of new development in the region further compounds the growth pressure in the township.

For a community accustomed to an agricultural economy and a limited population, this influx of new residents has caused stresses that have not been encountered in the township before. Without public sewer or water systems, development has eschewed sustainable models, instead consuming large parcels and contributing to an increasing sprawl. The consequential detriments to the environment include increasing flooding and the concern of eventual water quality contamination. The growing tax rate is another direct consequence of the sprawling development. As more residents require more services, the residential tax base becomes less and less viable. Given the limited infrastructure and the constraints upon large scale development, however, shifting to a commercial tax base would be difficult.

Alexandria Township possesses several extraordinary assets. The presence of a large formerly industrial site that is awaiting redevelopment and the recent passage of the state TDR Act are opportunities that could potentially have a positive effect upon the region, if managed correctly. Its pastoral beauty, rural landscape, and plentiful natural resources make it extremely attractive. These factors as well as its close proximity to large employment centers in New Jersey, New York, and Pennsylvania will ensure its continued growth. However, unless this growth is managed in a sustainable way, those very same elements that make it such a desired place to live will eventually be lost.

DEVELOPMENTAL STRATEGIES

The SDAT views future growth as a way of achieving community goals for preservation as well as development. At the November 19, 2005, community meeting, residents articulated the following goals for development and preservation in Alexandria Township:

- Promote sustainable development. Participants recognized that preservation of farmland and natural areas is critical to quality of life and sense of place. They were receptive to the idea that “smart preservation” was an important component of “smart growth.”
- Strengthen villages. New development should safeguard the viability of villages.
- Clean superfund site. Explore potential to create a TDR receiving area at the former mill site as a way to fund the clean up.
- Maintain transportation capacity. Future growth should be located where it can be accommodated by the road system.
- Protect airports. Ensure the continued viability of Alexandria Township’s two airports.
- Improve water/sewer system. Use future growth to upgrade protection for streams and groundwater.
- Green solutions. Encourage environment-friendly site design and construction.
- Support property values. Create compensation mechanisms as a means of encouraging voluntary preservation of farmland and open space.

Alternative Implementation Strategies

Alexandria Township’s current zoning alone will not protect the natural areas and remaining farms from very low density residential development. To permanently protect these resources, Alexandria should consider a combination of preservation tools, including

- Clustering. This technique concentrates development on one portion of a single parcel while recording a conservation easement on the rest of the parcel. This tool works best when existing land ownership patterns allow these development concentrations to expand or create a functional community rather than dispersing small, isolated subdivisions throughout the landscape.



- Purchase of development rights (PDR). With PDR, funding sources are used to buy and retire development rights in areas the community wants to protect. The potential funding sources include tax revenues, grants, and open space fees imposed on all new development. Many communities have difficulty generating meaningful funding amounts from these sources.

- Transfer of development rights. In TDR, additional development is allowed at a suitable location, called the receiving area, in return for reducing or eliminating development potential in places a community wants to preserve, called the sending area. TDR works within a community's zoning code to encourage this redirection of growth on a voluntary basis. When TDR works, the owner of the sending area property receives adequate compensation for reduced development potential without having to endure the cost and uncertainty of development. In effect, the sending area landowner liquidates development value while continuing to live on the land and use it for farming and other nondevelopment activities. Developers gain additional profit from the increased development potential shifted to the receiving site. And the community achieves its preservation goals (as well as growth goals) without complete reliance on unreliable funding sources such as taxes, grants, and fees.



TDR Mechanism

TDR encourages the voluntary participation of developers and property owners through a dual zoning mechanism.

- **Sending area.** Sending area property owners are not required to participate. They can forego the TDR option and use their properties as allowed by the underlying zoning. Alternatively, they can choose the TDR option: owners record an easement that permanently describes the ways in which the property can be used in the future; a commodity called transferable development rights, or TDRs, are created according to a formula in the zoning ordinance; or these TDRs can be sold to receiving area developers or intermediaries, thereby compensating the owners for the easement.
- **Receiving area.** Developers may likewise decline to use the TDR option and build within the base line density established in the zoning code. But when developers choose to exceed that base line, the zoning code specifies the number of TDRs that must be retired for each bonus dwelling unit, meaning each dwelling unit above base line density.
- **Transfer ratio.** The zoning code can allow sending area landowners to sell more TDRs than the number of dwelling units that can be built on site. This adjusts the cost of TDRs so that landowners are adequately compensated yet developers can still afford to use TDRs in receiving area projects. For example, Montgomery County, Md., which has saved 43,000 acres of farmland with TDR, limits development in sending areas to one dwelling unit per 25 acres but allows sending area landowners to sell TDRs at the rate of one TDR per five acres, a five-to-one transfer ratio.

Potential TDR Sending Areas in Alexandria Township

Alexandria Township is entirely within the New Jersey Highlands region. The northern corner of the township is in the Highlands Preservation Area. Implementation of the Highlands Plan, still in development, may create a regionwide TDR transfer program that could operate interjurisdictionally. Since that issue is still being resolved, this report assumes that TDR sending areas would be entirely within the southern portion of the township, which is designated as part of the planning area by the Highlands Plan. Implementation tools other than TDR have already preserved substantial farmland and open space throughout Alexandria. If the township pursues the TDR concept in

the future, consideration should be given to whether the option of preserving land should be widely available throughout the township or confined to a limited area, as discussed below.

- Widespread sending area option. In this option, Alexandria would make the TDR option available throughout the township to properties that meet certain criteria, possibly for parcel size, soil quality, and/or importance of other natural resources. New Jersey law requires that TDR supply balance TDR demand upon TDR ordinance adoption. Consequently, criteria are needed to limit TDR supply as well as ensure that the program targets the most worthy parcels for preservation. As an advantage, this option is likely to spread the benefits of open space preservation throughout the township. However, this dispersed pattern may not meet certain objectives such as the protection of wildlife corridors, the preservation of large environmental systems, or the separation of residential development from the noise, dust, pesticides, and fertilizers used in some types of farming.
- Limited sending area option. In this option, Alexandria would confine the sending area to the portion or portions of the township with the greatest concentration of resources that the community wants to preserve. If, for example, the community wants to preserve stream corridors or particular scenic vistas, the sending area would be so limited. Or, if the community is most interested in protecting commercial farming, it might designate just the part of the township with the greatest chance of long-term viability for agriculture based on soil productivity, distance from development, and/or desire on the part of farmland owners to permanently protect their land for farming. As an advantage, a limited sending area is more likely to produce the contiguous preservation that better protects sensitive resources. As a disadvantage, this option may be harder to adopt since it requires the community to make hard decisions about what places are most deserving of permanent preservation.

Potential Receiving Areas: Superfund Site

Some Alexandria residents proposed the superfund site on the Delaware River as a potential receiving area. Based on the review of advantages and disadvantages presented below, the SDAT concluded that it probably would not be a good receiving site. Nevertheless, since clean up of this site is a high priority, the township may wish to reexamine this conclusion if it considers TDR in the future.

- **Advantages.** The site is partly within Milford Borough and partly in a portion of the township immediately south of Milford. Urban services could be extended from Milford and redevelopment of this site could be used for the logical expansion and revitalization of that community. The site is on the shores of the Delaware River, providing scenic and recreational amenities that could support a high-value, mixed-use development capable of paying for TDRs if the site was not burdened by the extraordinary development costs discussed below. The extension of an existing bike/pedestrian path, for example, would link the site with Frenchtown and other popular destinations on the river.
- **Disadvantages.** The clean up of this site is likely to be extremely expensive. The township may have trouble finding a developer willing to tackle the clean up costs as well as buy TDRs to achieve the level of development necessary to recoup these clean-up costs. The site is entirely within the 100-year flood plain. Even though a portion of the site could be removed from the floodplain by fill, project opponents will point out the risks of building an expensive development at this location. Prohibitions exist against increasing sewage treatment plant effluent to the Delaware River. It is not known what type of sewage treatment might be approvable. The cost of this unresolved sewage treatment system is likely to be another reason why developers will probably argue they must be given the density they want rather than having to buy it through a TDR program.

Potential Receiving Areas: Hamlet Expansions

Areas adjacent to or near the existing hamlets of Little York, Pittstown, Mt. Pleasant, and Everittstown could be considered as TDR receiving areas. The following advantages and concerns use Little York as an example.

- **Advantages.** A new development next to Little York could be a receiving area for TDRs as well as a way of paying for infrastructure improvements. For example, a new development could extend Little York to the southeast and include a bypass allowing trucks and through traffic to avoid the center of the village. The new

development might also fund the installation of a sewage treatment system to replace the existing septic systems and thereby protect stream water quality.

- **Concerns.** Any new development near Little York must be accomplished with strict attention to site design and architectural detail to ensure the new construction is compatible with the old. Some residents may be concerned that too much development will follow, resulting in a change in the character of this crossroads community. To address that concern, the TDR program could work to create a greenbelt or community separator. The county park southeast of Little York already creates the start of such a greenbelt while the preservation area of the Highlands Plan, which starts immediately adjacent to the hamlet, should similarly form a greenbelt to the north.

Potential Receiving Areas: New Hamlet near Schools

The township could also promote the development of one or more small walkable new hamlets that are *not* adjacent to or near the township's four existing villages. These new hamlets would be TDR receiving areas and therefore capable of preserving sending area land. But they could also allow development to take advantage of and focus on community facilities. For example, a new hamlet could be between or near the three schools in the center of the township.

- **Advantages.** The schools represent a significant investment in public infrastructure in this area. New private development might efficiently expand public services such as sewerage systems. In addition, new development could provide bike/pedestrian pathways so that students could get to school on their own. This also appears to be one of the best places in the township for accommodating traffic.
- **Disadvantage.** This area contains several large farms. While these larger parcels would make site assembly relatively easy, location of a new hamlet here might require the sacrifice of a productive farm to development.

Potential Receiving Areas: New Hamlet on or near Township Park

The SDAT members also thought consideration should be given to a new hamlet on or adjacent to the township park. If there was agreement that a portion of the park could be sold for development, the township could design a New Urbanist community and sell the necessary land to developers who would be required to build to that design.

- **Advantages.** The development could use the active park facilities as a focal point. For example, a development could feature townhouses that enhance and take advantage of park amenities, possibly including the equestrian center and the hub



of the emerging equestrian trail system. This development could demonstrate the potential for synergy between public and private development as a model for one or more additional new hamlets.

- Disadvantage. Using a portion of an existing park for a private development will be controversial. However, the township could reconsider the current number and location of soccer and baseball fields to assess whether the site could be redesigned to provide essential recreational opportunities and still free up some land for a recreation-related, compact development. If it is not appropriate or not possible to develop any of the current parkland, adjacent properties could alternatively be developed into receiving areas that likewise take advantage of the park and recreational amenities.

Final TDR Thoughts

TDR could be effective in encouraging the voluntary concentration of development in hamlet extensions and new hamlets that offer amenity-focused communities while preserving some of the farmland and open space remaining in the township. In addition to exploring TDR, Alexandria should use clustering where it promotes desirable development patterns and consider tax revenues, grants, open space development fees, and other funding sources to pay for a concurrent purchase of development rights program.

AGRICULTURAL STRATEGIES

Husbandry is the name of all the practices that sustain life by connecting us conservingly to our places and our world; it is the art of keeping tied all the strands in the living network that sustains us.

—Wendell Berry, 2005

Shared Values

Preservation of Alexandria's rural character was one of the values shared by all residents participating in the Alexandria Township SDAT. Residents also expressed a commitment to a healthy natural environment and a desire to develop recreational opportunities in keeping with preservation goals. These goals are defined in the draft Open Space Plan Element of the Master Plan (November 2005) as follows:

- Maintaining the sustainability of agriculture
- Protecting natural resources
- Protecting water quality
- Preserving scenic views and villages
- Providing recreational opportunities
- Maintaining a stable tax rate.

While these goals are interrelated, this report focuses primarily on sustainable agriculture; the preservation of historic and cultural resources, including scenic views and villages; and recommendations for recreation planning.

Additional Values

Some long-time residents noted that newcomers to the township rarely participate on boards, in volunteer efforts, or in community events. This may be due, in part, to the time it takes to commute to their workplaces, which also contributes to increases in traffic volume and speed. SDAT members hypothesized that families moving from the cities to the new subdivisions and homes in Alexandria Township are attracted by the rural character that long-time residents value, seeking the security, healthy environment, and sense of community they perceive country living offers. Thus, they may see commuting as a noble sacrifice for the health, safety, and welfare of their families, rather than a contribution to degradation of rural character.

Approach

- Reach out to newcomers with information about community involvement and events
- Brainstorm ways to encourage and reward telecommuting
- Enable and promote home-based businesses and cottage industries

Commitment to Preservation

The Open Space Element of the Alexandria Township Master Plan affirms the community's commitment to preserving not only farmland, but natural open space, including "environmentally sensitive lands, lands of historic significance and scenic beauty, and lands for active and passive recreation." The township is actively engaged in farmland preservation, with an emphasis on acquisition, use of state and county programs, and partnerships with nonprofit organizations. It is also committed to preserving farming, as demonstrated by passage of a Right to Farm ordinance, the formation of a Municipal Agriculture/Open Space Advisory Committee, and the proposal of an agriculture/conservation zone.



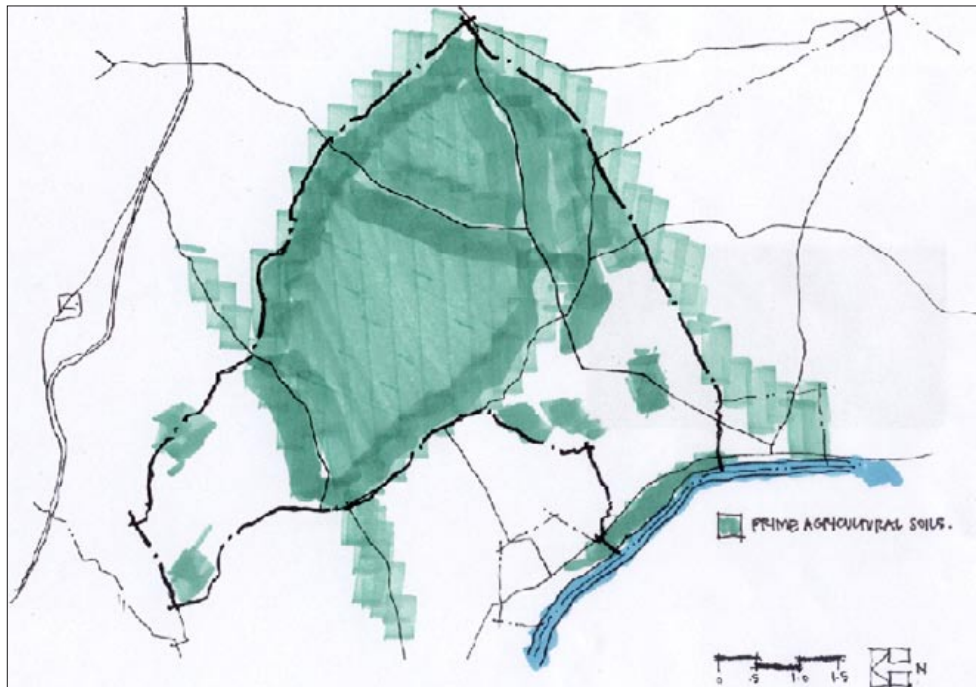
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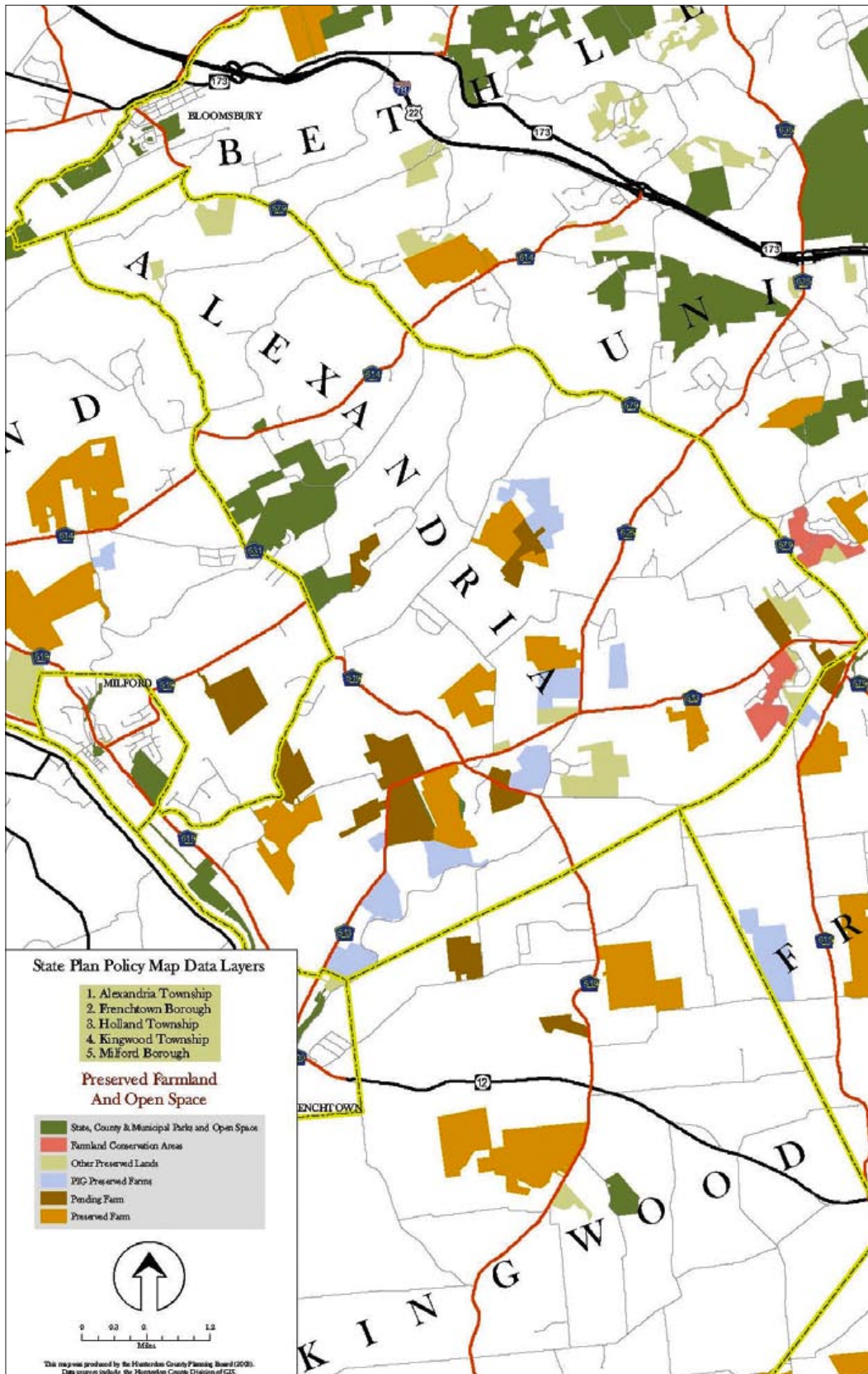
- Consider the potential contribution of the working landscape to environmental conservation and water quality when sustainable farming methods are used



Preserving Farmers

Members of the community concurred with the American Farmland Trust's bumper sticker, "It's not farmland without farmers." To ensure ongoing stewardship of the land, farmers must also be preserved. While Alexandria Township has a legacy of working family farms dating from the first settlement of the region, rising operating costs and advancing sprawl development have made the land itself more valuable than the crops or livestock that can be raised on most small family farms today using conventional farming methods and markets. In a brief summary of Alexandria's history, dated June 2004, Mary Anne Adams stated, "For most of its history Alexandria has been a farming community although the type of farming has changed repeatedly in accordance with prevailing economic conditions." Enticing young people to stay on family farms and attracting others to take up farming will require a new round of adaptation.





A renewed commitment to agriculture could contribute to the sense of security and community and reconnect residents with the land and each other. Boutique farming using sustainable methods and direct marketing to local consumers could provide a measure of food security to the community, while encouraging personal interaction at farmers' markets and agricultural fairs. A concerted effort could be made to attract young farmers to lease or buy local farmland and receive mentoring from long-time farmers. Innovative programs like magnet or charter schools with an emphasis on sustainable agriculture, marketing, and culinary arts, modeled on programs such as Alice Waters'

Chez Panisse, could be started in historic buildings such as preserved or reconstructed grange halls, barns, or other historic buildings to train the next generation of local farmers.



Approach

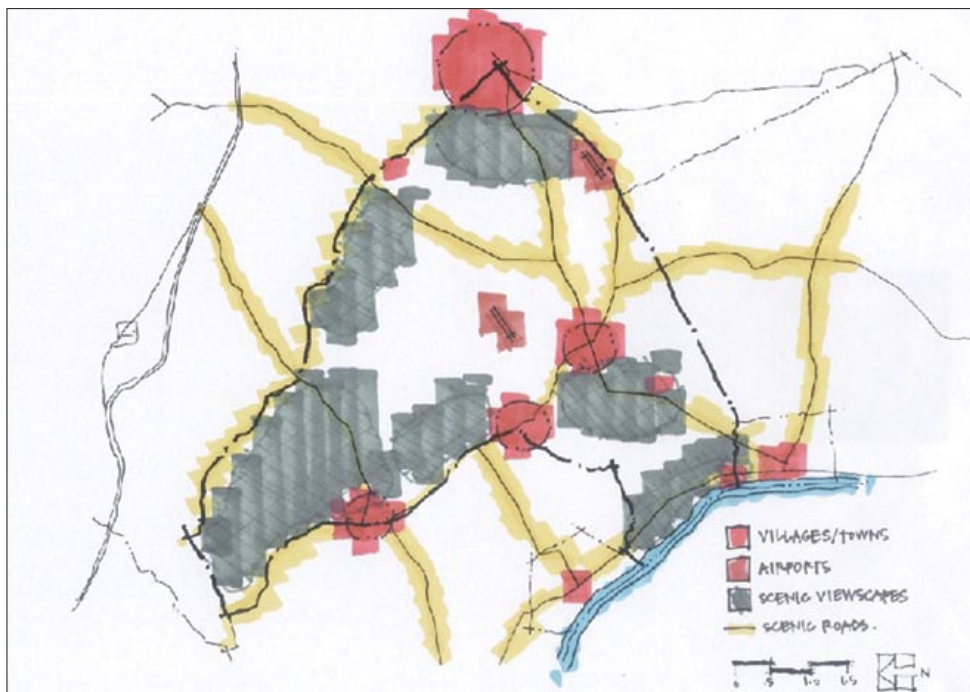
- Recruit, train, and mentor young farmers
- Organize Community Supported Agriculture (CSA) groups to share the risk and the harvest
- Enable and promote local value-added processing of agricultural goods
- Assist with direct marketing of agricultural goods
- Promote eco-gastronomy, the slow food movement
- Celebrate Alexandria's agricultural heritage with fairs and festivals

CULTURAL STRATEGIES

Preserving Historic/Cultural Landscapes

The introduction to the Historic Preservation Component of the Master Plan states

Alexandria Township's community character is substantially linked to its long history as an agricultural community and the present land forms and structures of the Township reflect this past. Preserving the best of Alexandria's past for future generations requires an identification of the specific elements reflecting this character so that they may be considered in the planning and review process as new development continues to impact the character of the community.



Alexandria Township recently passed an ordinance establishing a Historic Preservation Commission to review and make recommendations on development proposals that may affect the community's historic resources. Previously, the Planning Board relied on informal review by the Historical Committee. The creation of the commission provides legal authority for implementing and enforcing the township's historic preservation regulations.

Four historic districts, including 83 individual sites, and two historic churches in Alexandria Township are listed on the State and National Registers of Historic Places, but its historic landscapes have not yet been documented. The study of historic landscapes provides physical and temporal context for human influences on the land and the meanings associated with them. Built elements viewed as components of historic landscapes take on new meaning and value as contributors to the integrity of the landscape. Even if the individual integrity of a building or structure has been compromised, its location or mere presence as a form or volume, seen in the larger context, may cause it to be treated differently in a preservation management plan. The rule is, “Document before you modify or destroy.”



The Historic American Landscapes Survey (HALS) was established in 2000 as a companion to the Historic American Buildings Survey (HABS) and the Historic American Engineering Record (HAER). These three programs, administered by the National Park Service, identify and document historically significant buildings, structures, and landscapes. The reports are placed in the Library of Congress for public access and use. The protocols developed for HALS can be used as planning tools by using GIS overlay and relational database capabilities to compare land use patterns over time and correlate cataclysmic events such as floods, as well as gradual changes in the natural environment, with development on the land.

HALS documentation comprises three parts: historical reports, technical drawings, and archival photos. Guidelines for these three components are available electronically on the HALS Web site (www.cr.nps.gov/habshaer/hals/). The historical

report is completed first to define the scope of work for the drawings and the locations from which to shoot the archival photos.

Approach

- Review and revise definitions of historic preservation terms in all official township documents for consistency with National Register bulletin language
- Amend the Historic Preservation Component of the Master Plan to include historic landscapes
- Modify the historic preservation ordinance to include historic landscape preservation
- Identify, inventory, and document historic landscapes using HALS
- Nominate qualifying landscapes to the National Register (the National Register does not yet recognize “landscapes” as a historic resource type but efforts are under way to correct this oversight)
- Use HALS documentation as a planning tool in overlay analysis of land use suitability
- Conduct oral history interviews with long-time residents as part of HALS documentation to preserve local knowledge of agricultural, cultural, and natural resources

Preserving Scenic Beauty

Scenic beauty is recognized by federal government agencies such as the Bureau of Land Management (BLM) and the Forest Service as a legitimate resource that should be quantified, evaluated, and preserved. The BLM has developed the Visual Resource Management (VRM) system to evaluate scenic beauty for land use planning. This methodology is well documented and could be adapted for use by Alexandria Township.

Approach

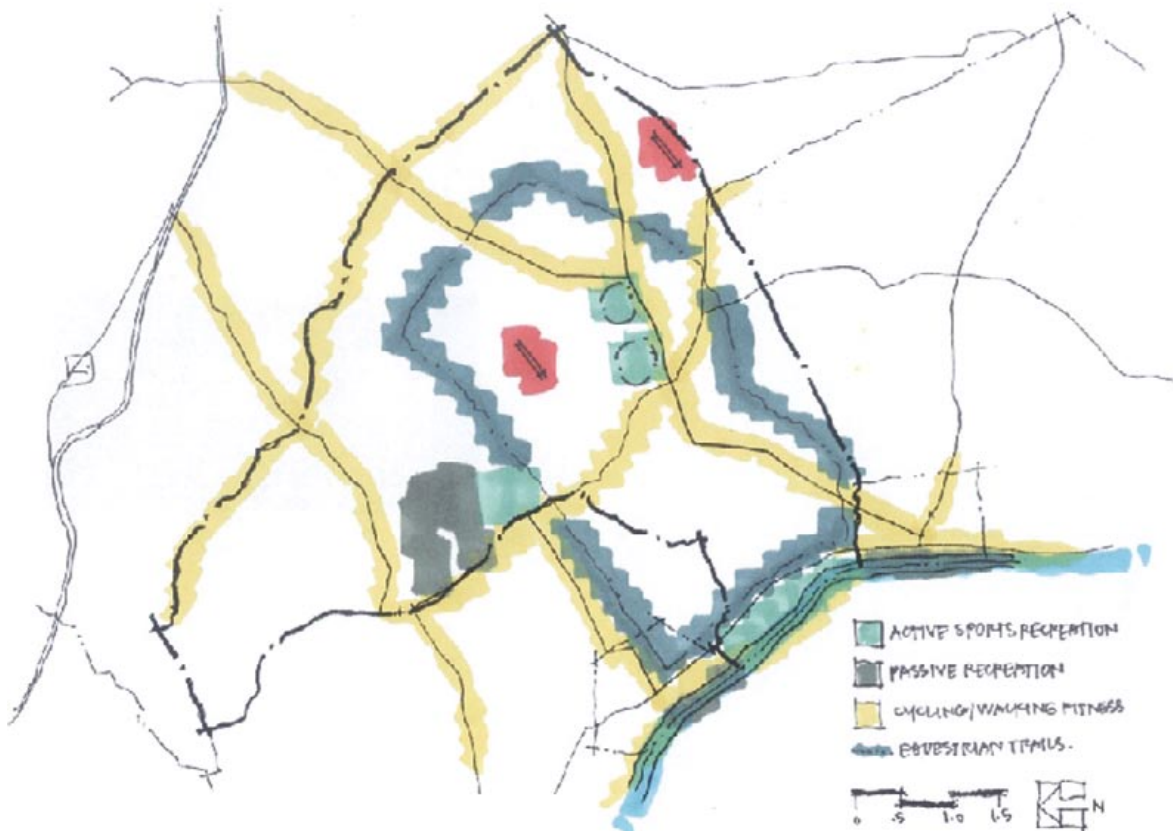
- Use VRM to quantify, evaluate, and preserve scenic beauty

RECREATIONAL STRATEGIES

Planning for Recreation and Tourism

The natural and cultural resources of Alexandria Township provide many opportunities for active and passive recreation for residents and tourists. The rail trail along the Delaware River and bicycle events on rural roads tap into regional activities. Equestrians take advantage of bridal paths and help acquire, develop, and conserve trail systems. The recent construction of a community park with structured recreation supplements the inherent recreation opportunities offered by the land itself.

Many communities have aggressively pursued programmed sports, building large recreation complexes to accommodate league play and regional tournaments. These facilities are destinations that generate traffic and require a substantial investment in infrastructure, including parking lots, restrooms, concessions, picnic shelters and playgrounds, and the maintenance facilities and staff to support them. This approach seems counterintuitive for Alexandria Township based on its goals of preserving rural character and open space. A better approach would be to encourage active living by



developing green infrastructure that supports alternative transportation, safe walking and biking routes to schools and existing recreational facilities, and compact development that reduces automobile use to reach recreational venues.



Approach

- Establish a recreation policy that supports preservation goals and implement it through planning and design
- Determine the amount of destination tourism Alexandria can absorb
- Capture pass-through tourism with festivals, roadside stands, historic inns and eateries, and other activities and facilities in keeping with preservation goals
- Evaluate the infrastructure needs, maintenance requirements, and opportunity costs of active and passive recreation facilities and programs
- Acquire greenways that connect open space and protect “green infrastructure”
- Develop a trail system that encourages alternative transportation between community destinations

ENVIRONMENTAL STRATEGIES

Brownfield Remediation and Redevelopment

In suggesting areas as receiving areas under a TDR program outlined earlier, the Alexandria Township portion of the Curtis Paper Mill site at first is a logical choice as it is currently available for redevelopment and is near the commercial section of Frenchtown. While a portion of the Curtis Paper Mill site is a superfund site, the remaining portion is considered a brownfield. A brownfield is any former or current commercial or industrial site, currently vacant or underused and on which there has been, or there is suspected to have been, a discharge of a contaminant.

There are many benefits to redeveloping a brownfield site which also promote its use as a receiving area:

- Smart growth and infill development
- Reduce urban sprawl
- Reduce needs to improve infrastructure.

Additionally, there are federal and state incentive program to provide financial assistance in the redevelopment of brownfields:

- Redevelopment agreement. Reimbursement of remediation expenses through new taxes generated through the new development.
- Site assessment funds. Perform environmental site assessments; must meet stringent criteria.
- Underground storage tank (UST) site clean up reimbursements. Funds provided for the removal and associated remediation of qualifying USTs.
- Interim financing, revolving loans. Low interest loans for brownfield rehabilitation.
- Voluntary remediation program. Encourages hazardous substance clean ups that might not otherwise take place.
- Agreement between the developer and the state environmental agency which defines scope of work to remediate nonpriority sites.
- Useful to close out remediation with “No Further Action” letters.
- Prospective purchaser agreement. Limited liability to innocent purchasers that would otherwise be fully liable for site contamination (does not apply to Resource Conservation and Recovery Act sites).

However, when examining the Curtis Paper Mill site, there are several issues that could potentially prevent a successful redevelopment at the site:

- Multiple lots in two municipalities. While the three lots within the limits of Alexandria Township can easily be consolidated, the majority of the mill is in Milford. Therefore the final development concept must be supported and approved by both municipalities.
- Private owner has filed for bankruptcy. Additional time and legal expense; development plan may require court approval.
- Money to fund remediation. Estimates for remediation range from \$10 million to \$40 million. Final development concept and financial/tax incentives must support this cost in addition to normal development and construction costs.
- 100-year flood plain/wetlands. Based on maps provided to the SDAT, the Alexandria Township portion of the Curtis Paper Mill is completely within the 100-year flood plain and has significant wetland areas. Although it is possible to obtain approval from the New Jersey Department of Environmental Protection (NJDEP) to fill in 20 percent of the site for development, this is just another cost that must be supported by the final development.
- Infrastructure/access. The site currently is not connected to public sanitary sewer. The site also is not near any major roadways, which may cause problems for potential commercial uses. Depending on concept, stormwater management may also become problematic.



- Marketing/beneficial use to the community. Past development plans included high density residential plans that did not offer many benefits or amenities to the township and community.
- Lack of information/approved remedial action work plan. During the SDAT visit, limited information was available on the environmental conditions present at the site and remediation plans proposed to clean up the site. In addition to the site remediation, does the proposed remediation scope of work include water quality analysis and sediment remediation of the Delaware River?

Although past developers have suggested traditional residential developments or mixed-use developments with commercial and residential components, the high density/number of residential units required to justify the remediation expense is causing some resistance within the township due to the expected traffic congestion and need for municipal services (e.g., schools and fire stations).

If the traditional development concepts are not acceptable, then a possible solution is to think “outside the box” and identify funding sources from unlikely partners. One such unorthodox partnership may be formed with reclamation advocacy groups, such as artists involved with land art. Land art is a form of art that includes natural elements and land forms and arranges them in an artistic manner for the benefit of the public to view.

Perhaps a Delaware River corridor consisting of multiple brownfields could be assembled so that the waterfront component of these sites would attract the land artists to create land forms that are actually incorporated into the remediation plans as environmental caps. While the land art proposal may not be a realistic solution for the Curtis Paper Mill site, it provides an example for a nontraditional development scheme.

With the issues presented above, the Curtis Paper Mill site would not be a primary site for a TDR receiving area.

Hydrology

Water is central to a sustainable community. In Alexandria Township, water has been a major part of the development of an agricultural economy over the past three centuries. The health, safety, and welfare of this community has benefited when water sources have been plentiful and clean. The long-term viability of a community is tied directly to the preservation of water quality and the conservation of this precious resource.

New Jersey has already adopted many regional policies aimed at protecting the quality of critical water sources in the Highlands Preservation Area and in promoting



practices that preserve the ecology of the Delaware River and its tributaries. It is important, however, that the designations applied to water sources, and the practices for managing and maintaining tributaries, are consistent with actual conditions and best management practices for each particular situation.

Previous studies indicated that

- Depending on the areas within the township, only 2 percent to 23 percent of the annual precipitation is available for groundwater and aquifer recharge.
- All major watercourses within the township are classified as Category One (C1) streams. However, all streams within the Nishisakawick Creek and approximately one-third of streams associated with Harihokake sub-watersheds are considered NT (i.e., waters may not be capable of sustaining trout populations).
- Soils within the southwest and northwest portions of the township have severe septic limitations.

In addition to the above, it should be noted that water balance analyses conducted by the township consultant and the NJDEP are

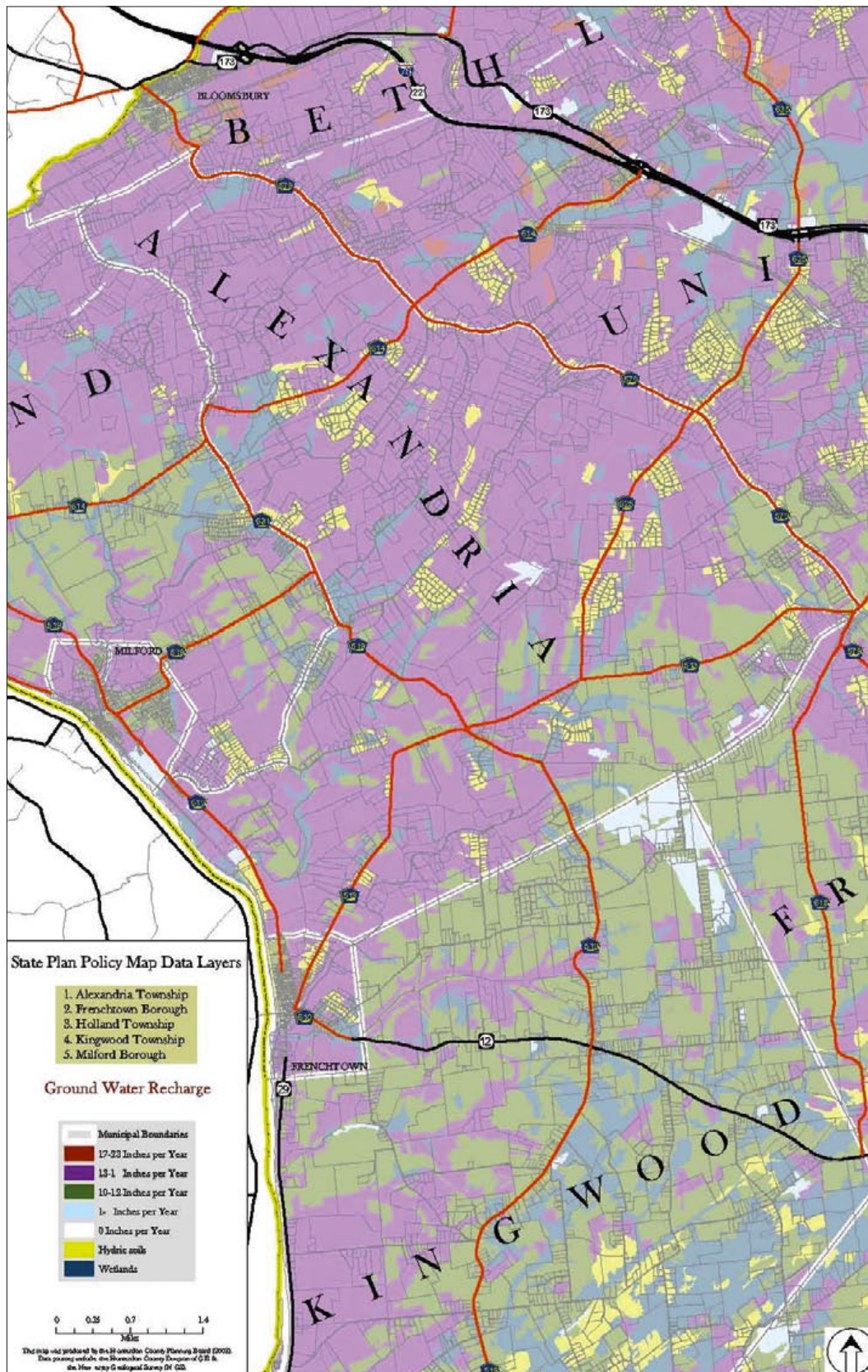
- Based on annual calculations. Given the climate conditions in New Jersey, monthly calculations would be more appropriate.
- Based on current conditions instead of future development conditions.
- Based on an empirical formula instead of computer programs that are capable of modeling the interaction between surface and sub-surface water resources.



Finally, the planning process with respect to future developments relies heavily on the nitrate dilution resulting from new septic systems and larger lot size. A better screening and selection process should be considered to attain sustainability criteria.

Nonstructural Recommendations

- More detailed stormwater and stream management criteria should be established. The quality of the runoff entering the NT streams should be less stringent, e.g., level of long-term suspended removal should be approximately 60 percent and the buffer zone width should also be relaxed. This would allow more opportunities for clustered or compacted developments.
- Future “green field” developments should be concentrated within the Nishisakawick Creek tributary area and the northwest portion of the Harihokake Creek sub-watershed.
- Future hydrological/hydrogeological analyses and methodology should be based on appropriate software approved by the township and the NJDEP.
- Adverse impacts should be clearly identified in order to protect water resources. Available mitigating measures should be evaluated and appropriate measures identified.



Structural Recommendations

As indicated above, there is an intimate relationship between the surface and sub-surface water resources within the township and the very limited opportunities for groundwater and aquifer recharge. In addition, the nitrate concentration in wastewater effluent is very stringent (i.e., 5.5mg/liter). Therefore, it is recommended that storm-water management practices promote infiltration as much as possible. This could be implemented by introducing the following treatment train concept:

- Lot level control. Direct runoff resulting from impervious areas to pervious areas. Conveyance systems: Roadside ditches and/or exfiltration trenches should be employed.
- End-of-pipe systems. Wherever possible, infiltration should be incorporated into the stormwater management scheme.
- Communal wastewater treatment systems should be encouraged. The advantages of these systems include
 - The nitrate concentration of the effluent could be reduced to 5mg/l.
 - The lot size could be reduced which would allow compacted development to occur within the township, preserve more spaces for environmental protection purposes, and provide the municipality with better controls for operation and maintenance.

The effluent from these systems could be directed to infiltration trenches, which would enhance both groundwater and aquifer recharge opportunities

BEYOND OPEN SPACE

Part of the role of local government agencies is to demonstrate exemplary leadership in creating sustainable communities. A basic premise of sustainability is balancing economic, ecological, and equitable social aspects of community planning and design. Alexandria Township is contemplating the construction of a town hall building and will continue to operate and maintain buildings, roads, parks, and other public facilities. The community should strive to incorporate sustainable practices with consideration to lifecycle costs, adaptability, environmental impact, and health and comfort of users.

Sustainable practices aimed at building performance include both processes and products. The benefits of integrated, high-performance building include reduced operating costs, improved employee productivity and efficiency, enhanced user health and comfort, and greater stewardship of natural resources. Some of the specific considerations for public policies and practices may include

- Site Design Strategies
 - Mitigate “heat island” impacts through roof and exterior landscape design
 - Limit stormwater runoff to effectively manage erosion, sedimentation, and contamination of nearby waterways
 - Limit areas of construction disturbance to minimize disruption of adjacent sites and the public way
 - Avoid sites that adversely affect wildlife habitat or water quality
- Water Conservation Strategies
 - Use water efficient landscaping and irrigation systems for all site improvements
 - Use efficient fixtures and systems indoors to reduce water consumption
 - Consider rainwater and/or graywater harvesting and storage to augment irrigation and sewage conveyance systems.
- Energy Conservation and Efficiency Strategies
 - Enhance existing natural daylight sources to augment energy consumptive artificial lighting systems
 - Develop a high-performing building envelope, including walls, roof, glazing systems, and shading devices

- Control and direct exterior illumination to minimize light trespass and light pollution
- Consider use of economical, renewable energy sources
- Commission building systems to ascertain proper operation, training, and efficiency
- Materials and Resource Stewardship Strategies
 - Work with contractors to develop construction waste recycling and salvaging programs
 - Use recycled or salvaged construction products where possible
 - Use certified renewable wood and organic products
 - Develop strategies for using local and regional building products and components.
- Indoor Environmental Quality Strategies
 - Provide and enhance natural light where possible
 - Improve effectiveness of ventilation system to maximize fresh air intake
 - Increase controllability of lighting and climate control systems where appropriate to maximize individual user comfort
 - Eliminate the use of indoor materials (paints, sealants, coatings, flooring and wall finish materials) that contain volatile organic compound chemicals

In addition to exemplary leadership for public buildings, the township might also consider developing incentive programs to encourage responsible design and construction practices that result in healthier buildings with reduced environmental impact. Many cities and towns across the country, large and small, are incorporating such practices into their homebuilding industries with remarkable results. Emerging programs such as Energy Star™ compliance and new home and neighborhood development certification programs of the U.S. Green Building Council offer ideas that can be incorporated into public policies.

MOVING FORWARD

This report has outlined a preliminary road map for the future of Alexandria Township, designed to enable the community to achieve its goals. While no one can predict the future, the objective in outlining this road map is to try, to the extent possible, to suggest the directions that will provide for the community's long-term sustainability and vitality, rather than offer "quick-fix" solutions for tomorrow.

Creating and implementing a long-term vision for a community is difficult and requires the sustained commitment from the local government, the business and civic leadership, and the community as a whole. Four themes are suggested to help focus that commitment as Alexandria Township moves forward in the years to come.

Determining Land Use Suitability

Alexandria Township has access to GIS data and graphics that can prove to be an invaluable tool in determining open space preservation priorities. This can be created by developing an overlay analysis of developmental, agricultural, cultural, recreational, and environmental areas, elements, and features. Identifying the overlaps and intersections of these elements can help achieve a significant focus for open space preservation efforts. It can also be used to evaluate the suitability of development proposals and determine the most appropriate location for the uses proposed. Alexandria Township has compiled an extensive inventory of maps generated by state agencies and county GIS planning services. These maps can be used by a state or county GIS mapping specialist or consultant familiar with land use and environmental analysis to determine the criteria and components of a land use suitability analysis of various growth and conservation scenarios and to conduct the analysis to inform the master planning process.

Remember that accumulation of a number of small steps can amount to something big.

Approach

- Conduct a GIS land use suitability analysis of Alexandria Township using overlay methods such as those developed by Ian McHarg
- Include cultural/ historic resources, scenic beauty, and green infrastructure in the analysis

Coordinating Regionally

Alexandria Township has started a rich discussion through the SDAT application process, and expanded with the team visit, that may prove to be very beneficial. Conversations with surrounding communities can result in a rich dialogue of best practices. Regional and state agencies are prepared to offer assistance in many different areas. Networking is as important with community development as with any business association—maybe even more so. There is so much at stake.

The SDAT encourages the township’s leaders to share their successes with others and ask others to share their successes with them. Moreover, the township should invest in creating opportunities for open public discussion and dialogue, similar to those experienced during the team visit, in order to keep the energy and momentum level high.

Reviewing and Updating Policies and Ordinances

It is important to remember that public policies and ordinances are living documents. These should be reviewed and updated on a regular basis to accommodate new priorities and areas of focus. Enlist the input, support, and guidance of skilled professionals when necessary to provide objective guidance to the process.

Enlisting Local Champions

Continue to build a cadre of champions from within and outside the community. The local leaders and officials in the community certainly exhibit a tremendous amount of energy and enthusiasm, and this can carry out into the community to encourage and spark the interest of many others.

Carefully address the role of public boards and commissions as a mechanism to involve local champions in specific efforts or areas of expertise. Creating an advisory board in each of the open space strategy areas can help bring direction and focus in each of these areas simultaneously. And involving these individuals regularly in ongoing prioritization, review, and update of public policies will ensure broader support and will maintain energy and enthusiasm for the collective effort.

RESOURCES

Open Space Conservation

- Center for Green Space Design, www.greenspacedesign.org
- The Interrelationship of Geographic Information Systems with Master Plans and Operational Management Plans, www.nww.usace.army.mil/gis/interrelationship.htm
- Steinitz, Carl. Harvard Graduate School of Design, www.gsd.harvard.edu/people/faculty/steinitz/index.html
- McHarg, Ian. Overlay Maps and the Evaluation of Social and Environmental Costs of Land Use Change, www.csiss.org/classics/content/23

Transfer of Development Rights

- Pruetz, Rick. “Saved by Development: Preserving Environmental Areas, Farmland.” Arje Press, 1997.
- Pruetz, Rick. “Beyond Takings and Givings: Saving Natural Areas, Farmland and Historic Landmarks with Transfer of Development Rights and Density Transfer Charges.” Arje Press, 2003.

Home-Based Business

- The Telework Coalition, www.telcoa.org/
- U.S. Small Business Administration, www.sba.gov/

Agricultural Preservation

- New York City Watershed Council, www.nycwatershed.org/
- Land’s Sake, Weston, MA, www.landssake.org/index.htm
- New Jersey Natural Resources Conservation Service (NRCS), www.nj.nrcs.usda.gov/
- American Farmland Trust, www.farmland.org/
- Chez Panisse, www.chezpanisse.com/
- Hunterdon County Cooperative Extension, www.co.hunterdon.nj.us/depts/rutgers/rutgers.htm

- USDA Alternative Farming Systems Information Center, www.nal.usda.gov/afsic/agnic/USDA/troika.htm
- Organic Food Production, www.nal.usda.gov/afsic/ofp/
- Sustainable Agriculture, www.nal.usda.gov/afsic/agnic/agnic.htm
- Community Supported Agriculture, www.nal.usda.gov/afsic/csa/
- Slow Food International, www.slowfood.com/
- Slow Food USA, www.slowfoodusa.org/
- Slow Food Foundation for Biodiversity, www.slowfoodfoundation.com/

Historic Preservation

- Historic American Landscape Survey, www.cr.nps.gov/habshaer/hals/guidelines.htm
- Preservation Brief 36. Protecting Cultural Landscapes: Planning, Treatment and Management of Historic Landscapes, www.cr.nps.gov/hps/tps/briefs/brief36.htm
- The Olmsted Center for Landscape Preservation, www.nps.gov/oclp/
- The Cultural Landscape Foundation, www.tclf.org/
- New Jersey Society of Landscape Architects, www.njasla.net/index.html
- Visual Resource Management (VRM), www.blm.gov/nstc/VRM/
- Scenic America, www.scenic.org/

Recreation/Active Living

- Rails to Trails Conservancy, www.railtrails.org/
- American Trails, www.americantrails.org/
- Robert Wood Johnson Foundation, www.rwjf.org/index.jsp
- Active Living by Design, www.activelivingbydesign.org/
- Safe Routes to School, www.saferoutestoschools.org/

High Performance Building Planning and Design

- U.S. Green Building Program, www.usgbc.org
- Leadership in Energy and Environmental Design (LEED™) High Performance Building Rating System, www.leedbuilding.org
- U.S. Department of Energy: High Performance Buildings, www.eere.energy.gov/buildings/highperformance/
- Funding Green Buildings, www.fundinggreenbuildings.com/
- BuildingGreen, www.buildinggreen.com/

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